

CLAIMS

1. Vapor retarder for indoor sealing of buildings, especially roof structures, with at least one barrier layer (1) retarding the passage of moisture vapor, especially water vapor, said barrier layer being formed from a material with moisture-adaptive water vapor diffusion resistance, said material changing its diffusion resistance as a function of ambient moisture, **characterized by the fact that** the vapor retarder has at least one electromagnetic-field-(EMF)-shielding layer (EMF layer) (2), which is formed so as to be permeable to diffusion.
2. Vapor retarder of claim 1, **characterized by the fact that** the electromagnetic-field-shielding layer (2) is connected to the barrier layer (1) such that it is diffusion-permeable.
3. Vapor retarder of any of the previous claims, **characterized by the fact that** the electromagnetic-field-shielding layer (2) is in the form of an electrically conducting layer and/or in the form of a magnetic-shielding layer.
4. Vapor retarder of any of the previous claims, **characterized by the fact that** the electromagnetic-field-shielding layer comprises a laminated, electrically conducting nonwoven, an especially bonded metal lattice, a printed layer of electrically conducting coatings, a vapor-deposited layer of electrically conducting substances, a nonwoven doped with  $\mu$ -metal, a metal whisker layer or a vapor-deposited layer of magnetically shielding substances.
5. Vapor retarder of any of the previous claims, **characterized by the fact that** the electromagnetic-field-shielding layer (2) is incorporated into the barrier layer (1', 1''), especially embedded into at least two barrier layers.
6. Vapor retarder of any of the previous claims, **characterized by the fact that** the electromagnetic-field-shielding layer (2) protrudes at least partially, especially at a side edge, beyond the barrier layer to connect with the adjacent vapor retarders.

7. Vapor retarder of any of the previous claims, **characterized by the fact that** at least on one side provision is made in the edge region for apertures (6) that serve to make connection with adjacent vapor retarders, especially via incorporated adhesives..
8. Vapor retarder of any of the previous claims, **characterized by the fact that** the vapor retarder further has at least one preferentially diffusion-permeable reinforcement and/or protective layer (5).
9. Vapor retarder of any of the previous claims, **characterized by the fact that** the reinforcement or protective layer (5) comprises a nonwoven based on polyethylene terephthalate (PET) or fiberglass.
10. Vapor retarder of any of the previous claims, **characterized by the fact that** the layers (1, 2, 5) are firmly connected to each other by an especially diffusion-permeable binder layer (3).
11. Vapor retarder of claim 10, **characterized by the fact that** the especially diffusion-permeable binder layer (3) is punctiform, network-like or is a full-surface layer of very low thickness.
12. Vapor retarder of any of the previous claims, **characterized by the fact that** a polyethylene (PE) adhesive is intended as the binder for connecting the layers (1, 2, 5).
13. Vapor retarder of any of the previous claims, **characterized by the fact that** the material of barrier layer (1) with moisture-regulating water-vapor diffusion resistance has a water vapor diffusion resistance  $s_D$  value of 2 to 5 m diffusion-equivalent air layer thickness at a relative air humidity in the range 30% to 50% in the atmosphere surrounding the vapor retarder and a water vapor diffusion resistance  $s_D$  value that is  $< 1$  m diffusion-equivalent air layer thickness at a relative air humidity in the range 60% to 80%.
14. Vapor retarder of any of the previous claims, **characterized by the fact that** the vapor retarder and/or the individual layers (1, 2, 5), such as barrier layer, EMF-shielding layer and reinforcement or protective layer are formed as a film.

15. Vapor retarder of any of the previous claims, **characterized by the fact that** the barrier layer is formed of polyamide 66, polyamide 6, polyamide 4 or polyamide 3.